Ann. Natal Mus. Vol. 23(1) Pages 67–70 Pietermaritzburg October 1977

Notes on Ethiopian Hemipyrellia Townsend, 1918 (Diptera: Calliphoridae)

by

J. P. Dear

(Department of Entomology, British Museum (Natural History), London)

SYNOPSIS

A review is presented of the genus *Hemipyrellia* Townsend, 1918 in the Ethiopian zoogeographic region and a new species *H. zumpti* is described from the Malagasy Republic. Lectotypes are designated for *Lucilia germana* Robineau-Desvoidy, 1830 and *L. toeniops* Bigot, 1860, *Lucilia brunnipes* Macquart,. 1843, *L. argenticeps* Macquart, 1851, *L. madagascariensis* Macquart, 1851, *L. borbonensis* Macquart, 1851, *L. smaragdosaphira* Bigot, 1860 *Hemipyrellia pseudofabriciana* Enderlein, 1935 are new junior synonyms of *Lucilia germana* which is a new combination in *Hemipyrellia*. The removal of *Musca cyanea* Fabricius, 1781 from the Calliphoridae and its assignment in the Muscidae is confirmed.

INTRODUCTION

The old world genus *Hemipyrellia* is represented in the Ethiopian zoogeographic region by four species. One, *H. pulchra* (Wiedemann), is also found in the Oriental region *H. fernandica* (Macquart) is common throughout the African mainland but has not been recorded from any of the adjacent islands. The other two species are confined to the Malagasy subregion, and have a confused nomenclatural history. The aim of this paper is to clarify this situation and to propose a stable nomenclature for the family Calliphoridae in 'A Catalogue of Diptera of the Afrotropical Region' (Crosskey *et al.* in prep.).

Aubertin (1931), in her revision of the genus, recognized only two species from the Ethiopian zoogeographic region, *H. fernandica* and *H. cyanea* (Fabricius), but also mentioned the possible occurrence of *H. pulchra* in Sudan. The name *cyanea* has caused some confusion in the past because of the existence of two Fabrician specimens, one male in the Banks Collection (BMNH), and one male in Copenhagen (UZMC). Zimsen (1964: 488) also mentioned the presence of a label for this species, but no specimen, in Fabricius's own collection at Kiel.

Fabricius (1781: 439) described *cyanea* with the data 'Habitat ad Cap. bon. sp', but stated no location, so the holotype should be in his own collection. The holotype is therefore the lost Kiel specimen. In a later work (1794: 319), he saw an additional specimen from 'Mus. Dom. Banks', and this specimen is in the Banks Collection in the BMNH. It is a male *Hemipyrellia* as stated by Aubertin (1931: 502), who regarded it as the type, but additional arguments against this being the type are that it does not have the metallic blue femora mentioned by Fabricius in his original description and it belongs to a species (*germana*) known only from the Malagasy subregion.

There is a male in the Sehestedt–Lund collection, UZMC, which Townsend (1931: 369) took to be the holotype though it too must be a specimen seen by Fabricius after the original publication. This specimen is a widespread and common South African *Orthellia* Robineau-Desvoidy (Muscidae) with metallic blue femora (see

Zielke, 1971 : 153, 182). Emden (1951 : 701) followed Townsend and made the necessary nomenclatural changes in the Muscidae and Calliphoridae. However, the name *Musca cyanea* Fabricius is preoccupied by *Musca cyanea* Müller, 1764.

In his Madagascan paper, Zumpt (1962) recognized two species of *Hemipyrellia* from that subregion, namely *H. brunnipes* (Macquart), and *H. taeniops* (Bigot) (original spelling *toeniops*). However, the latter name was rightly placed as a synonym of *fernandica* by Aubertin (1931: 500) (see lectotype designation below). Zumpt's '*taeniops*' is however a distinct species and therefore a new species without a name. The species is named below but I have given only a short diagnosis as the genitalia drawings and description published by Zumpt provide an admirable diagnosis of the species. The name of the other Madagascan species, *H. brunnipes* has been found to be a junior synonym of *germana* (see lectotype designation below).

Museums and institutions where material is located are as follows, and the abbreviations in parentheses are those used in the text: BMNH. British Museum (Natural History), London; MNHNP. Muséum National d'Histoire Naturelle, Paris; SAIMR. South African Institute for Medical Research, Johannesburg; UZMC. Universitetets Zoologiske Museum, Copenhagen.

Genus *Hemipyrellia* Townsend

Hemipyrellia Townsend, 1918: 154. Type-species: *Hemipyrellia currei* Townsend, 1918 [= *Lucilia fernandica* Macquart, 1855], by original designation.

Diagnosis: Hemipyrellia may be distinguished from other genera of the Calliphoridae by the setulose suprasquamal ridge, haired supraspiracular convexity and the entirely metallic blue or green body-colour.

Key to Ethiopian species of *Hemipyrellia* Townsend

1. Antennae bright orange. Face, jowls, parafacialia and parafrontalia silvery white dusted. Squamae white. Male sterna with long black wavy setulae, (Nigeria, Sudan, Egypt and India) . . . . . . **pulchra** Wiedemann

— Antennae blackish brown to yellowish brown 2

2. Male frons at narrowest point equal to four times width of anterior ocellus. Black setulae on facial ridge on only $\frac{1}{3}$ to $\frac{1}{4}$ of its length (widespread Africa) **fernandica** Macquart

— Male frons at narrowest point equal to twice width of anterior ocellus or less. Black setulae on facial ridge on $\frac{1}{2}$ or more of its length 3

3. Ground colour of jowls, parafacialia, lower parafrontalia and face yellow. Fore coxae yellowish brown to yellow. Legs pale brown. Antennal segments yellowish brown. Lower squama yellowed, especially apically. Male with central part of parafrontalia only lightly dusted with shiny black ground colour showing through. Back of head with pale setulae below post ocular row of setae. Dorsal marginal setae of tergum three $\frac{1}{2}$ or more the length of tergum four. Female parafrontalia polished black without dusting around and in front of the upper *ors* setae and at the narrowest point only as wide as an *ors* seta socket. Parafacialia viewed from the front at lunule equal to 0,55 the width of the third antennal segment (Malagasy Republic) . . **zumpti** sp. n.

— Ground colour of jowls, parafacialia, parafrontalia and face dark brown to black. Fore coxae brown to black. Legs dark brown. Lower squama white. Male parafrontalia totally densely silvery dusted. Back of head with black setulae below the post ocular row of setae. Dorsal marginal setae of tergum three up to $\frac{1}{3}$ the length of tergum four. Female parafrontalia densely silvery dusted in full extent and at the narrowest point equal to twice the width of an *ors* seta socket. Parafacialia viewed from the front at the lunule equal to 0,77 the width of the third antennal segment (Aldabra, Madagascar, Mauritius, Réunion and Seychelles) . . . **germana** Robineau-Desvoidy

Hemipyrellia germana (Robineau-Desvoidy, 1830), **Comb. n.**

Lucilia germana Robineau-Desvoidy, 1830: 455.
Lucilia brunnipes Macquart, 1843: 295 (r.138). **Syn. n.**
Lucilia argenticeps Macquart, 1851: 219 (r.246). **Syn. n.**
argentipes. Variant spelling of *argenticeps*.
Lucilia madagascariensis Macquart, 1851: 219 (r.246). **Syn. n.**
Lucilia borbonensis Macquart, 1851: 220 (r.247). **Syn. n.**
Lucilia smaragdosaphira Bigot, 1860: 543. **Syn. n.**
Hemipyrellia pseudofabriciana Enderlein, 1935: 246. **Syn. n.**
cyanea, authors, not Fabricius [misidentification].

Lectotype designation for germana *Robineau-Desvoidy*. Robineau-Desvoidy described this species from an unstated number of specimens in Dejean's collection, from New Holland and Ile de France (Mauritius). Dejean's collection was acquired by Bigot (Robineau-Desvoidy, 1863: 1114) and one female syntype has been found in the Bigot collection in the BMNH. The specimen is labelled 'Lucilia Germana R-D' in Robineau-Desvoidy's handwriting [according to A. C. Pont (BMNH) and L. Matile (MNHNP)]. There is no further material to be found in Paris (MNHNP) so I have labelled and hereby designate the BMNH specimen as lectotype. The specimen is in poor condition, covered in fungus and dust.

As *germana* has been found to be the oldest name for the species previously known as *brunnipes*, the names previously placed in synonymy with *brunnipes*, become new synonyms of *germana*, as listed above.

Lectotype designation for Lucilia toeniops *Bigot*. Bigot described this species from one male and one female from 'Madagascar'. Both syntypes are in the BMNH where I have examined them. The male has no original data label; it is in good condition but has the right wing missing. The female is provisionally labelled by Bigot 'Lucilia toeniops, ♂♀, Bigot, Madagascar' and is in fair condition with the left fore leg, left hind leg and right mid leg missing. I have labelled and hereby designate the male as lectotype and the female as paralectotype. The male agrees with the most recent interpretations of *Hemipyrellia fernandica* (e.g. Zumpt 1962) and the female is a specimen of *H. germana*. These identifications agree with those of Aubertin (1931: 502).

Hemipyrellia zumpti sp. n.

Hemipyrellia taeniops, Zumpt (1962: 61), not Bigot [misidentification].

Head: Eyes separated in male by up to twice the width of the anterior ocellus, in female by up to $\frac{2}{5}$ the eye width. Ground colour of jowls, parafacialia and face yellow.

Thorax: Ground colour black with blue and green metallic reflections and a very weak whitish dusting. *Ac.* 2+2, *dc* 3+3, *ia* 1+2, 3*ph*. Squamae yellowish. Legs pale brown.

Abdomen: Ground colour black with blue and green metallic reflections. Tergum three of male with marginals half the length of tergum four.

For a complete description and figures of the male genitalia see Zumpt (1962: 61, as *taeniops*).

Holotype ♂, MALAGASY REPUBLIC: Tamatave Province, Perinet, 1 000 m, 4.xii.1957, F. Keiser, in the British Museum (Natural History), London.

Paratypes, 5 ♂ 5 ♀, MALAGASY REPUBLIC: locality and collector as for holotype, 1 ♀, 2.xii.1957, BMNH; 1 ♂, 4.xii.1957, SAIMR; 1 ♀, 27.ix.1958, BMNH Diego-Suarez Province, Joffreville, 10.v.1958, F. Keiser, 1 ♂, SAIMR; Tamatave Province, Antanambe, 14.xi.1957, F. Keiser, 1 ♀, SAIMR; Tamatave Province, Andranofotsy, 1.v.1958, F. Keiser, Pres. F. Zumpt, BM. 1961–705, 1 ♂, BMNH; Majunga Province, Tsaramandroso, Ankarafantsika Forest, i.1956, B. Stuckenberg, 1 ♂, genitalia on slide, SAIMR; Nossi-Bé, Sambirano, Lokobe, 9–23.xi.1957, B. Stuckenberg, 1 ♀, SAIMR; La Mandraka (?), xii.1951, N. L. H. Krauss, 1 ♂, 1 ♀, BMNH.

ACKNOWLEDGEMENTS

For the loan of material I am very grateful to Prof. F. Zumpt (SAIMR), and to Dr L. Lyneborg (UZMC).

I am also grateful to my friend and colleague Adrian Pont (BMNH) for the historical information he provided and to Mr L. Matile (MNHNP) for checking the collections in Paris for additional type material.

REFERENCES

Aubertin, D., 1931. Revision of the Genus *Hemipyrellia* Tns. (Diptera, Calliphoridae) *Proc. zool. Soc. Lond.* **1931**: 497–509.

Bigot, J.-M.-F., 1860. Diptères de Madagascar (suite et fin) Troisième partie. *Annls Soc. ent. Fr.* (3) 7: 533–558.

Crosskey, R. W. *et al.*, In prep. A Catalogue of the Diptera of the Afrotropical Region. London.

Emden, F. I. van., 1951. Muscidae: C.—Scatophaginae, Anthomyiinae, Lispinae, Fanniinae and Phaoniinae. *Ruwenzori Expedition* 1934–5, **2**(6): 325–710. London.

Enderlein, G., 1935. Dipterologica 111. *Sber. Ges. naturf. Freunde Berl.* **1935**: 235–246.

Fabricius, J. C., 1781. Species insectorum exhibentes eorum differentias specificas, synonyma, auctorum loca natalia, metamorphosin. Vol. **2**: 517 pp. Hamburgi et Kilonii (Hamburg and Kiel).

——— 1794. Entomologia systematica emendata et aucta. Secundum classes, ordines, genera, species adjectis synonimis, locis, observationibus, descriptionibus. Vol. **4**. 472 + 5 pp. Copenhagen.

Macquart, J., 1843. Diptères exotiques nouveaux ou peu connus [**2** (3)]. *Mém. Soc. Sci. Agric. Lille* **1843**: 162–460 (reprint 5–304).

——— 1851. Diptères nouveaux ou peu connus. Suite du 4e Supplément publié dans les Mémoires de 1849. *Mém. Soc. Sci. Agric. Lille* **1850**: 134–294 (reprint 161–364).

Robineau-Desvoidy, J. B., 1830. Essai sur les Myodaires. *Mém. pres. div. Sav. Acad. Inst. Sci. Fr.* **2**: 1–813.

——— 1863. Histoire naturelle des Diptères des environs de Paris, Vol. **1**, 1143 pp. Paris.

Townsend, C. H. T., 1918. New Muscoid genera, species and synonymy (Diptera). *Insecutor Inscit. menstr.* **6**: 151–156.

——— 1931. Notes on Old-World Oestromuscoid types—Part 1. *Ann. Mag. nat. Hist.* (10) **8**: 369–391.

Zielke, E., Revision der Muscinae der äthiopischen Region. *Series ent.* **7**: 199 pp.

Zimsen, E., 1964. The type material of I. C. Fabricius. 656 pp. Munksgaard, Copenhagen.

Zumpt, F., 1962. The Calliphoridae of the Madagascan region. (Diptera). Part 1. Calliphorinae. *Verh. naturf. Ges. Basel* **73**: 41–100.

Date received: 19 January 1977